

CLAIMS

sub a27 1. A system for authenticating a signature comprising:

- (a) a digitizer and associated electronic pen ;
- (b) a dynamic identification unit for receiving data from said digitizer produced during signature by said electronic pen on said digitizer, calculating signature parameters and permitted variations from said data, and generating a reference signature record therefrom;
- (c) a comparator for comparing said received parameters produced during signature with said reference signature record; and
- (d) apparatus for providing an accept or reject response in accordance with the output of said comparator.

605 15. 2. The system according to claim 1, further comprising:

- a transmitter for transmitting said calculated signature parameters for authentication; and
- a receiver for receiving said transmitted signature parameters, said receiver being coupled to said comparator.

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3. The system according to claim 2, wherein:

- (a) said system further includes an encryptor for encrypting said measured parameters to provide an encrypted signature record; and

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- (b) said dynamic identification unit further includes a decoder for decoding said encrypted signature record.

4. The system according to claim 1, wherein said reference signature record is stored on an IC (integrated chip) card.

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sub a37 5. The system according to any of claims 1 to 3 for authenticating a signature transmitted over a transmission line comprising:

- (a) a vendor unit including:

(1) a digitizer and associated electronic pen; and
(b) a signature authorization unit coupled to said vendor unit by the transmission line and including:

5 (1) a dynamic identification unit for receiving data from said digitizer produced during signature by said electronic pen on said digitizer, calculating signature parameters therefrom, and generating a reference signature record corresponding thereto;

10 (2) a comparator for comparing said parameters produced during signature with said reference signature record; and

15 (3) apparatus for providing an accept or reject response to said vendor unit in accordance with the output of said comparator.

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Sub a3 6. The system according to claim 2 or 3 for authenticating a signature transmitted over communication transmission lines comprising:

20 (a) a cardholder unit including:

25 (1) a digitizer and associated an electronic pen;
(2) apparatus for transmitting the output of said digitizer over the communication transmission lines;

30 (b) a signature authorization unit including:

25 data from said digitizer produced during signature by said electronic pen on said digitizer, calculating signature parameters therefrom, and generating a reference signature record corresponding thereto;

30 (2) a comparator for comparing said parameters produced during signature with said reference signature record; and

(3) apparatus for providing an accept or reject response in accordance with the output of said comparator; and

(c) a vendor unit coupled to said cardholder unit and to said signature authorization unit by the communication transmission lines and including a transceiver for receiving said output of said digitizer from said cardholder unit and 5 transmitting it to said signature authorization unit; and for receiving said accept or reject response from said signature authorization unit.

Sub a3 7. The system according to any of the preceding claims, 10 wherein said reference signature record includes an array of signature parameters and permitted variations.

8. The system according to any of the preceding claims, further comprising means for updating said reference 15 signature record.

Sub a4 9. A method of authenticating a signature including the steps of:

(a) providing a reference signature record; 20
(b) signing with an electronic pen on a digitizer tablet;
(c) calculating signature parameters from data received from said digitizer produced during signature by said electronic pen on said digitizer; . . .
25 (d) comparing said parameters produced during signature with said reference signature record; and
(e) providing an accept or reject response in accordance with results of the comparison.

Sub a5 10. The method according to claim 9, and further including the steps of:

(a) encrypting said calculated parameters with a encryption key after said step of calculating; and
35 (b) decrypting said encrypted parameters before comparing said parameters.

11. The method according to claim 9, wherein said step of providing a reference signature record includes:

5 (a) writing the signature on said digitizer several times;

(b) calculating signature parameters for each signature;

(c) calculating permitted variations of said signature parameters; and

10 (d) storing said signature parameters and said permitted variations as a reference signature record.

12. The method according to any of claims 9 to 11, further comprising updating said reference signature record.

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